Animal Welfare and the Milk Roadmap

Compassion in World Farming is concerned that pressure to increase the productivity of dairy cows, in order to reduce methane emissions, carries serious welfare risks for cows.

Increasing productivity for economic reasons, with the development of Holstein genetics, has been associated over the last few decades with a range of welfare problems including lameness, mastitis and infertility.

Lameness has increased dramatically since a farmer-based national survey in 1957-58 found an annual incidence of 4% (Leech et al., 1960). Surveys since the 1980s have reported mean annual incidences ranging from above 20% (Whitaker et al., 1983 and 2000; Esslemont and Kossaibati, 2002) to over 50% (Clarkson et al., 1996). Actual levels may be even higher than those recorded in these studies. Esslemont and Kossaibati (2002) comment: “One suspects that this [lameness] is the disease that is most under-recorded”.

A number of studies since the early 1990s show that about a quarter of cows are affected by clinical mastitis in any lactation, with the mean annual incidence ranging from above 30 to over 40 cases per 100 cows (Esslemont and Kossaibati, 1996; Kossaibati et al., 1998; Esslemont and Kossaibati, 2002). Some studies have reported even higher levels. For example, in a study of 340 dairy herds, mainly in southern England, Whitaker et al. (2000) reported that 36.6% of cows were affected by clinical mastitis over 12 months in 1998/99.

There is a large body of evidence linking selection for increased milk yield with infertility (Webster, 2000). In the UK, pregnancy rate at first service decreased from 56% in 1975-1982 to about 40% in 1995-1998, a decrease of about 1% per year (Royal et al., 2000). Pryce et al. (1998) obtained a genetic correlation of +0.39 between milk yield and calving interval. 43.7% of cows in the UK appear to have abnormal oestrus cycles (31.7% in 1982) and early foetal loss is also an increasing problem with 40% of pregnancies now affected (24% in 1982) (Royal et al., 2000). Infertility is the biggest cause of culling in dairy cows (Esslemont and Kossaibati, 1997; Whitaker et al., 2000).

Producing larger volumes of milk puts great demands on the physiology of the cow both to produce nutrients to secrete into the milk and for the metabolism required for milk synthesis. Part of this milk is produced at the expense of body condition. According to Webster (2005), the cow is motivated to eat by the metabolic hunger resulting from both milk production and body condition, but to stop eating by sensations associated with gut fill, the end products of increased rumen digestion (especially ammonia) and the need for rest. The modern Holstein’s tendency to produce milk at a cost to body condition can result in a cow which may be “simultaneously hungry, tired, full up and feeling sick”.

Infertility, mastitis and lameness are major causes of culling (Esslemont and Kossaibati, 1997; Whitaker et al., 2000) and hence important factors in the low life expectancy of the dairy cow.

Selection for high milk production in the Holstein cow has also been associated with a reduction in the suitability of male Holstein calves for beef production. A significant proportion of these calves are either killed at birth or exported for veal. This leads not only to ethical and welfare problems, but it also means that an increased population of sucker cows is required to
produce beef calves which could have come from the dairy industry. These extra cows will produce extra methane.

The reduction in cow longevity also increases greenhouse gas emissions since replacements have to be reared, emitting methane as they grow. Furthermore, a higher proportion of dairy calves need to be replacement females, hence a higher proportion will also be Holstein males which are less likely to be reared for beef. Reductions in longevity may, therefore, have a significant effect on GHG emissions.

Good management, together with selection for a more robust cow, could bring production benefits. Where better welfare brings production and environmental benefits everybody wins. Selection for higher production, however, increases welfare risks. Although some farmers manage high production cows with great skill, it is widely stated that the modern dairy cow is on a metabolic knife edge. If the genetics and management are not spot on, welfare can suffer. Current pressure for increased production for environmental reasons risks continuing a trend which has gone too far already.

Selecting for a larger cow may increase productivity and reduce emissions. However, it would appear also to be associated with the tendency to keep dairy cows indoors for longer periods of the year. Increasing the weight of cows increases the tendency for poaching of the ground. Systems which aim to keep cattle outside all year, such as those in New Zealand, are likely to choose lighter breeds of cattle to avoid turning the pasture into mud. A worrying tendency has been for some farms to follow the practice of zero-grazing, now commonplace in the States, especially for the most productive cows. Increasing time spent indoors has been associated with higher levels of lameness. This trend has received relatively little publicity so far, but is unlikely to be popular with the public in the future.

Recent TV programmes on intensive chicken farming were alluded to at the meeting. At a time when the pig and poultry industries are moving away from the most intensive forms of production, this is not necessarily a good time to promote an increasingly intensive dairy industry, particularly if this also means that animals will spend more time kept indoors. This will not be good for the image of British farming.

We need to develop sustainable forms of dairy farming which are welfare-friendly, including those based on low-input production. Selection for productivity should not be at the expense of health and welfare. Systems which enable cattle to be kept outside without damage to vegetation and soil structure should be encouraged. Efforts to reduce emissions from dairy farming should concentrate on methods that do not accentuate welfare risks, for example:

- Selection for a more robust dairy cow with increased health and longevity
- Selection for breeds which produce male calves suitable for economic beef production
- Campaigns to reduce food waste including meat and dairy products
- Policies to encourage more moderate and sustainable consumption of meat, eggs and dairy products in line with nutritional recommendations designed to reduce risks of cancer and heart disease as well as meeting nutrient requirements

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References:


